

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for providing a fibre-containing pectin product from a plant material, said method comprising the steps of:

(i) providing an *in situ* reaction system by swelling the plant material in an aqueous solution, ~~where~~ wherein said aqueous solution ~~comprising~~ comprises at least one salt[[,]];

(ii) subjecting pectin present in the swollen plant material from step (i) to a de-esterification treatment in the presence of an alkaline reagent[[,]]; and

(iii) separating the de-esterified fibre-containing pectin product.

2. (Original) The method according to claim 1, wherein the aqueous solution does not contain an organic solvent.

3. (Currently amended) The method according to ~~any one of claims 1 or 2~~ claim 1, wherein the plant material is swelled in the aqueous solution for 1 to 120 minutes.

4. (Currently amended) The method according to ~~any one of claims 1-3~~ claim 1, wherein the plant material is swelled in the aqueous solution at a temperature in the range of 0-120°C.

5. (Currently amended) The method according to ~~any one of claims 1-4~~ claim 1, wherein the plant material is swelled in the aqueous solution providing a dry matter content of the plant material in a range from 1-50%.

6. (Currently amended) The method according to ~~any one of claims 1-5~~ claim 1, wherein the amount of the at least one salt ~~correspond~~ corresponds to a salt concentration from 1 mmol to 30 mmol per gram of plant material dry matter, ~~such as from 5 mmol to 15 mmol~~.

7. (Currently amended) The method according to ~~any one of claims 1-6~~ claim 1, wherein the aqueous solution is an inorganic aqueous solution.

8. (Currently amended) The method according to ~~any one of claims 1-7~~ claim 1, wherein the at least one salt is a water- soluble and neutral salt.

9. (Original) The method according to claim 8, wherein the water-soluble and/or neutral salt is selected from the group consisting of sodium salts, potassium salts, calcium salts, chloride salts, nitrate salts and mixtures thereof.

10. (Currently amended) The method according to ~~any one of claims 1-9~~ claim 1, wherein the de-esterification treatment is continued for 1 to 120 minutes.

11. (Currently amended) The method according to ~~any one of claims 1-10~~ claim 1, wherein the de-esterification treatment is performed at a temperature in the range of 0-120°C.

12. (Currently amended) The method according to ~~any one of claims 1-11~~ claim 1, wherein the de-esterification treatment is performed with a dry matter content of the plant material in a range from 1-50%.

13. (Canceled)

14. (Currently amended) The method according to claim ~~13~~ 1, wherein the alkaline condition reagent provided in step (ii) ~~is provided by the addition of a alkaline reagent giving a pH above 7, such as above 8, e.g. above 9, such as above 10, e.g. above 11, such as above 12, e.g. above 13, such as 14. (in the range from 7-14, such as in the range of 8-13, e.g. in the range of 9-13, such as in the range of 10-13, e.g. in the range of 11-13, such as in the range of 11.5-12.5)~~ results in a pH between 7 and 14.

15. (Currently amended) The method according to claim ~~14~~ 1, wherein the alkaline reagent is ~~at least one~~ selected from the group consisting of ammonia or other, a low molecular weight amines amine, diamines or amino acids, a low molecular weight diamine, a low molecular weight amino acid, hydroxides of sodium, potassium and calcium or hydroxides of

~~organic bases, such as tetramethylammonium hydroxide~~ sodium hydroxide, potassium hydroxide, calcium hydroxide and an organic base hydroxide.

16. (Currently amended) The method according to claim ~~15~~ 1, wherein the amount of alkaline reagent is from 20 mmol to 80 mmol of basic reagent per gram of pectin-containing plant dry matter.

17. (Currently amended) The method according to ~~any one of claims 1-16~~ claim 1, wherein the plant material is further subjected to an amidation treatment.

18. (Currently amended) The method according to claim 17, wherein the amidation is ~~provided by treatment comprises~~ addition of an amidation reagent selected from the group consisting of ammonia ~~or other~~ , a low molecular weight amines amine, diamines or amino acids a low molecular weight diamine and a low molecular weight amino acid.

19. (Currently amended) The method according to ~~any one of claims 17 or 18~~ claim 17, wherein the swollen plant material obtained in step (i) is treated with the amidation reagent for 1 to 120 minutes.

20. (Currently amended) The method according to ~~any one of claims 17-19~~ claim 17, wherein the swollen plant material obtained in step (i) is treated with the amidation reagent at a temperature in the range of -15 to 75°C.

21. (Currently amended) The method according to ~~any one of claims 1-20~~ claim 1, wherein the separated and de-esterified fibre-containing product obtained in step (iii) is subjected to at least one washing step and/or at least one pressing step to obtain the fibre-containing pectin product.

22. (Currently amended) The method according to claim 21 wherein the washed and/or ~~dried~~ pressed fibre-containing pectin product is dried to a dry matter content of at least 90% by weight, ~~and optionally comminuted.~~

23. (Currently amended) The method according to ~~any one of claims 1 or 22~~ claim 1, wherein the fibre-containing pectin product has a degree of esterification from 0-80, ~~such as from 0-50, e.g. from 2-50, such as from 2-45, e.g. from 2-40, such as from 5-50, e.g. from 10-50, such as from 10-40, e.g. from 15-35.~~

24. (Currently amended) The method according to ~~any one of claims 1-23~~ claim 1, wherein the fibre-containing pectin product has a degree of amidation of not more than 95% ~~e.g. not more than 75%, such as not more than 60%, not more than 50%, such as not more than 40%, e.g. not more than 30%, such as not more than 25%, e.g. not more than 20%.~~

25. (Currently amended) The method according to ~~any one of claims 1-24~~ claim 1, wherein the fibre-containing pectin product obtained in step (iii) has a dry matter content of at least 1% (w/w) of the dry matter, ~~such as at least 5% (w/w) of the dry matter, e.g. at least 10% (w/w) of the dry matter, such as at least 15% (w/w) of the dry matter, e.g. at least 25% (w/w) of the dry matter, such as at least 50% (w/w) of the dry matter, e.g. at least 75% (w/w) of the dry matter, such as at least 85% (w/w) of the dry matter, e.g. at least 95% (w/w) of the dry matter.~~

26. (Currently amended) The method according to ~~any one of claims 1-25~~ claim 1, wherein the plant material is obtained from a native vegetable material in a fresh or dried state.

27. (Currently amended) The method according to ~~any one of claims 1-26~~ claim 1, wherein the plant material is selected from the group consisting of potato pulp, sugar beet pulp, pomace residues from apples, and peels or pulp from citrus fruits, ~~such as lemon, orange, mandarin, lime, and grapefruit.~~

28. (Currently amended) A fibre-containing pectin product ~~obtainable~~ produced by a the method according to ~~any one of claims 1-27~~ claim 1.

29. (Currently amended) The product according to claim 28, wherein the fibre content present in the product is at least 1% (w/w) of the dry matter, ~~such as at least 5% (w/w) of the dry~~

~~matter, e.g. at least 10% (w/w) of the dry matter, such as at least 15% (w/w) of the dry matter, e.g. at least 25% (w/w) of the dry matter, such as at least 50% (w/w) of the dry matter, e.g. at least 75% (w/w) of the dry matter, such as at least 85% (w/w) of the dry matter, e.g. at least 95% (w/w) of the dry matter.~~

30. (Currently amended) A method for providing a pectin product, said method comprising the steps of:

- (i) providing a fibre-containing pectin product according to ~~any one of claims 28 or 29~~ claim 28[[,]];
- (ii) adding an extraction medium to the fibre- containing pectin product providing an extraction suspension[[,]];
- (iii) adjusting the pH of the extraction suspension to a pH in the range of 1- 12[[,]];
- (iv) adjusting the temperature of the extraction suspension to a temperature in the range of 0- 120°C[[,]]; and
- (v) isolating the pectin product from the aqueous phase of the extracting medium.

31. (Currently amended) The method according to claim 30, wherein the extraction medium has a pH in the range of 1-6, ~~such as in the range of 2-6, e.g. in the range of 2-5, such as in the range of 3-5, e.g. in the range of 4-5.~~

32. (Currently amended) The method according to ~~any one of claims 30 or 31~~ claim 30, wherein the temperature is in the range of 40-100°C, ~~such as in the range of 60-80°C.~~

33. (Currently amended) The method according to ~~any one of claims 30-32~~ claim 30, wherein the pectin product is isolated by ~~any known method such as a method selected from the group consisting of~~ precipitation, extraction, centrifugation, filtration, chromatography[[,]] and drying.

34. (Currently amended) A pectin product ~~obtainable~~ produced by a the method according to ~~any one of claims 30-33~~ claim 30.

35. (Currently amended) The product according to claim 34, wherein said product fulfils ~~at least one of following requirements: (i) the product~~ has a viscosity of at least ~~5~~ 40 cp when mixed in a concentration of at the most 1% (w/w) of pectin in a solution and measured by using a citric/citrate buffer and in a Hake Rheostress 1 viscosimeter as defined in method A, and/or (ii) ~~the product~~ has a viscosity which is at least 2 times higher than the viscosity of conventional ~~manufactured~~ pectin products when mixed in a concentration of at the most 1% (w/w) of pectin in a solution and measured by using a citric/citrate buffer and in a Hake Rheostress 1 viscosimeter as defined in method A.

36. (Currently amended) A product comprising pectin, ~~that fulfills at least one of following requirements: (i) the~~ wherein said product has a viscosity of at least ~~5~~ 40 cp when mixed in a concentration of at the most 1% (w/w) of pectin in a solution and measured by using a citric/citrate buffer and in a Hake Rheostress 1 viscosimeter as defined in method A, and/or (ii) ~~the product~~ has a viscosity which is at least 2 times higher than the viscosity of conventional ~~manufactured~~ pectin products when mixed in a concentration of at the most 1% (w/w) of pectin in a solution and measured by using a citric/citrate buffer and in a Hake Rheostress 1 viscosimeter as defined in method A.

37. (Currently amended) The product according to claim 36, wherein the product has a viscosity of at least 30 cp when mixed in a concentration of at the most 1% (w/w) of pectin in a solution, ~~such as at least 10 cp, e.g. at least 15 cp, such as at least 20 cp, e.g. at least 25 cp, such as at least 35 cp, e.g. at least 40 cp, such as at least 45 cp, e.g. at least 50 cp, such as at least cp, e.g. at least 100 cp, such as at least 150 cp, e.g. at least 200 cp.~~

38. (Currently amended) The product according to ~~any one of claims 36 or 37~~ claim 36, wherein the product has a viscosity which is at least 2.5 times higher than conventional ~~used~~ pectin products, ~~such as at least 3 times higher, e.g. at least 3.5 times higher, such as at least 4 times higher, e.g. at least 5 times higher.~~

39. (Currently amended) The product according to ~~any one of claims 36-38~~ claim 36, wherein the pectin has a degree of esterification from 0-80, ~~such as from 0-50, e.g. from 2-50, such as from 2-45, e.g. from 2-40, such as from 5-50, e.g. from 10-50~~ and/or a degree of amidation of not more than 95% ~~e.g. not more than 75%, such as not more than 60%, not more than 50%, such as not more than 40%, e.g. not more than 30%, such as not more than 25%, e.g. not more than 20%.~~

40. (Currently amended) ~~Use of a product according to any one of claims 28-29, 34-35 or 36-39 for the encapsulation of, e.g.,~~ A method for encapsulating an easily volatile lipid, and/or water-soluble aromatic agent and water-soluble colouring agent, micronutrient, flavoring agent or vitamin, comprising providing a pectin product according to any one of claims 28, 34, or 36, and encapsulating said easily volatile lipid, water-soluble aromatic agent, micronutrient, flavoring agent or vitamin in said pectin product agents or by encapsulating micronutrients, flavouring agents, vitamins, etc..

41. (Currently amended) A pharmaceutical composition comprising the Use of a product according to any one of claims 28-29, 34-35 or 36-39 28, 34 or 36. in the production of solid and liquid pharmaceutical compositions, including, e.g., tablets, suspensions, emulsions, etc. and as components in cosmetic products, such as perfumes, creams, and lotions, etc

42. ~~Use of a product according to any one of claims 28-29, 34-35 or 36-39 as a~~ A viscosifying agent and/or an emulsifying agent comprising a product according to any one of claims 28, 34 or 36.

43. ~~Use of a product according to any one of claims 28-29, 34-35 or 36-39 for~~ A fat replacement or ~~for the replacement of tobacco~~ replacement comprising the product according to any one of claims 28, 34 or 36.